

## ABSTRACT

### POLYMERISATION CATALYST

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A process is disclosed for the preparation of zinc alkyl chain growth products via a catalysed chain growth reaction of an alpha-olefin on a zinc alkyl, wherein the chain growth catalyst system employs a group 3-10 transition metal, or a group 3 main group metal, or a lanthanide or actinide complex, and optionally a suitable activator. The products can be further converted into alpha-olefins by olefin displacement of the grown alkyls as alpha-olefins from the zinc alkyl chain growth product, or into primary alcohols, by oxidation of the resulting zinc alkyl chain growth product to form alkoxide compounds, followed by hydrolysis of the alkoxides.

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